

## CLAIMS:

What is claimed is:

- 542 A<sup>2</sup> 1. A method of gathering management information from servers within a cluster, comprising:
- 3 receiving management information from probes at each of
- 4 a plurality of levels within every server within the
- 5 cluster;
- 6 aggregating the received management information at each
- 7 of the plurality of levels across all servers within the
- 8 cluster; and
- 9 combining the aggregate levels of management
- 10 information to form a single management image of the
- 11 cluster.
- 12 2. The method of claim 1, wherein the step of receiving
- 13 management information from probes at each of a plurality of
- 14 levels within every server within the cluster further
- 15 comprises:
- 16 receiving information from lightweight probes within
- 17 every server at each of the plurality of levels including an
- 18 application server level, an operating system level, a
- 19 network level, and a hardware level.
- 20 3. The method of claim 1, wherein the step of aggregating
- 21 the received management information at each of the plurality
- 22 of levels across all servers within the cluster further
- 23 comprises:
- 24 aggregating the received management information at each
- 25 of the plurality of levels including an application server
- 26 level, an operating system level, a network level, and a
- 27 hardware level.

1 4. The method of claim 3, wherein the step of aggregating  
2 the received management information at each of the plurality  
3 of levels including an application server level, an  
4 operating system level, a network level, and a hardware  
5 level further comprises:

6 aggregating the received management information at a  
7 designated management server rather than on each server  
8 within the cluster.

1 5. The method of claim 4, wherein the step of combining  
2 the aggregate levels of management information to form a  
3 single management image of the cluster further comprises:

4 combining the aggregate levels of management  
5 information at the designated management server.

1 6. The method of claim 1, further comprising:

2 generating an extensible markup language data stream  
3 containing the single image of the cluster; and

4 transmitting the data stream to an adapter for each  
5 system management application executing on a designated  
6 management server within the cluster.

1 7. The method of claim 1, further comprising:

2 generating commands based on the single image of the  
3 cluster;

4 dividing the commands based upon a plurality of levels  
5 including an application server level, an operating system  
6 level, a network level, and a hardware level;

7 subdividing the divided commands according to  
8 individual servers within the cluster; and

9 transmitting each subdivided commands to respective

$$\text{sub } A^2$$
[illegible]

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1 8. A system for gathering management information from  
2 servers within a cluster, comprising:  
3 means for receiving management information from probes  
4 at each of a plurality of levels within every server within  
5 the cluster;  
6 means for aggregating the received management  
7 information at each of the plurality of levels across all  
8 servers within the cluster; and  
9 means for combining the aggregate levels of management  
10 information to form a single management image of the  
11 cluster.

12 9. The system of claim 8, wherein the means for receiving  
13 management information from probes at each of a plurality of  
14 levels within every server further comprises:  
15 means for receiving information from lightweight probes  
16 within every server at each of the plurality of levels  
17 including an application server level, an operating system  
18 level, a network level, and a hardware level.

19 10. The system of claim 8, wherein the means for  
20 aggregating the received management information at each of  
21 the plurality of levels across all servers within the  
22 cluster further comprises:  
23 means for aggregating the received management  
24 information at each of the plurality of levels including an  
25 application server level, an operating system level, a  
26 network level, and a hardware level.

27 11. The system of claim 10, wherein the means for  
28 aggregating the received management information at each of  
29 the plurality of levels including an application server

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4 level, an operating system level, a network level, and a  
5 hardware level further comprises:  
6 means for aggregating the received management  
7 information at a designated management server rather than on  
8 each server within the cluster.

1 12. The system of claim 11, wherein the means for combining  
2 the aggregate levels of management information to form a  
3 single image of the cluster further comprises:  
4 combining the aggregate levels of management  
5 information at the designated management server.

6 13. The system of claim 8, further comprising:  
7 means for generating an extensible markup language data  
8 stream containing the single image of the cluster; and  
9 means for transmitting the data stream to an adapter  
10 for each system management application executing on a  
11 designated management server within the cluster.

12 14. The system of claim 8, further comprising:  
1 means for generating commands based on the single image  
2 of the cluster;  
3 means for dividing the commands based upon a plurality  
4 of levels including an application server level, an  
5 operating system level, a network level, and a hardware  
6 level;  
7 means for subdividing the divided commands according to  
8 individual servers within the cluster; and  
9 means for transmitting each subdivided commands to  
10 respective probes at a corresponding level within a server  
11 within the cluster.  
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1 15. A computer program product within a computer usable  
2 medium for gathering management information from servers  
3 within a cluster, comprising:

4 instructions for receiving management information from  
5 probes at each of a plurality of levels within every server  
6 within the cluster;

7 instructions for aggregating the received management  
8 information at each of the plurality of levels across all  
9 servers within the cluster; and

10 instructions for combining the aggregate levels of  
11 management information to form a single management image of  
12 the cluster.

13 16. The computer program product of claim 15, wherein the  
14 instructions for receiving management information from  
15 probes at each of a plurality of levels within every server  
16 within the cluster further comprises:

17 instructions for receiving information from lightweight  
18 probes within every server at each of the plurality of  
19 levels including an application server level, an operating  
20 system level, a network level, and a hardware level.

21 17. The computer program product of claim 15, wherein the  
22 instructions for aggregating the received management  
23 information at each of the plurality of levels across all  
24 servers within the cluster further comprises:

25 instructions for aggregating the received management  
26 information at each of the plurality of levels including an  
27 application server level, an operating system level, a  
28 network level, and a hardware level.

1 18. The computer program product of claim 17, wherein the

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2 instructions for aggregating the received management  
3 information at each of the plurality of levels including an  
4 application server level, an operating system level, a  
5 network level, and a hardware level further comprises:

6 instructions for aggregating the received management  
7 information at a designated management server rather than on  
8 each server within the cluster.

1 19. The computer program product of claim 18, wherein the  
2 instructions for combining the aggregate levels of  
3 management information to form a single image of the cluster  
4 further comprises:

5 combining the aggregate levels of management  
6 information at the designated management server.

1 20. The computer program product of claim 19, further  
2 comprising:

3 instructions for generating an extensible markup  
4 language data stream containing the single image of the  
5 cluster; and

6 instructions for transmitting the data stream to an  
7 adapter for each system management application executing on  
8 a designated management server within the cluster.

1 21. The computer program product of claim 19, further  
2 comprising:

3 instructions for generating commands based on the  
4 single image of the cluster;

5 instructions for dividing the commands based upon a  
6 plurality of levels including an application server level,  
7 an operating system level, a network level, and a hardware  
8 level;

9 instructions for subdividing the divided commands  
10 according to individual servers within the cluster; and  
11 instructions for transmitting each subdivided commands  
12 to respective probes at a corresponding level within a  
13 server within the cluster.

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